"Operation and Maintenance at the Delatte Metals Superfund Site" AI No. 2328
Louisiana Department of Environmental Quality

1.0 INTRODUCTION

According to the Superfund State Contract between the Louisiana Department of Environmental Quality (the Department) and the U.S. Environmental Protection Agency (USEPA), the Department is responsible for providing Operation and Maintenance (O&M) at the Delatte Metals Superfund Site, located south-southeast of Hammond, Louisiana. The Department invites all interested and qualified parties to submit bids to provide the services required for these activities as described below. As specified in the National Contingency Plan (NCP) and the Superfund State Contract, the State is required to continue O&M activities at the site during which time the USEPA will continue to provide regulatory oversight.

1.1 BACKGROUND

The 19-acre Delatte Metals Superfund Site includes the Delatte Metals, Inc. facility and the abandoned North Ponchatoula Battery Facility. The two sites are aggregated because they are adjacent, performed identical lead salvage operations, and generated the same type of waste, with the exception that Delatte Metals, Inc. operated a lead smelter to recover additional lead materials. Delatte Metals, Inc. began operation in the early 1970's as the Fuscia Battery Company and ceased operations in 1993. The Ponchatoula Battery Company moved its operation adjacent to the Delatte and Fuscia Battery Company between 1972 and 1978.

The physical location of the site is approximately 5.5 miles south-southeast of Hammond, Louisiana, and 1.5 miles southeast of Ponchatoula, Louisiana. The site lies to the north of Weinberger Road, in a rural area with numerous residences within a one-mile radius of the site. The surrounding area is used for growing crops such as bell peppers, strawberries, and soybeans. Minor amounts of land are used for harvesting timber. The site is bounded by Weinberger Road and residences to the south, drainage ditches and residences to the north and east, and Selser's Creek and a residence to the west.

During State and EPA investigations, discharge from the facilities showed a pH range from 0.55 to 2. Analytical samples from on-site soil and groundwater samples indicated the presence of heavy metals including lead, arsenic, and cadmium. An observed release of lead and cadmium to Selser's Creek was documented by the analytical data from the sediment samples collected at three probable points of entry.

Remedial action (RA) operations costing approximately $14 million began on November 18, 2002 and the site construction completion was completed on September 22, 2003. During the RA, the principle threat wastes were excavated, immobilized, and transported offsite for disposal. A permeable treatment barrier (PRB) wall was installed to neutralize the acidity of the shallow water-

bearing zone (WBZ) and limit the migration of dissolved metals. A groundwater monitoring program will be used to ensure the effectiveness of the selected remedy. Continued groundwater monitoring will include sampling to determine that the groundwater pH downgradient of the PRB is increasing, that metal concentrations in groundwater downgradient of the PRB is decreasing, and that metal concentrations in the groundwater of the third WBZ are not increasing.

In 1996, the State of Louisiana referred the site to EPA. On September 22, 2004, one year after the Preliminary Close-Out Report was signed and operational and functional period began, EPA turned over the site to the State of Louisiana.

1.2 Modifications to the Operation and Maintenance Program

Historically, long-term groundwater monitoring for the previous Department's O&M contracts consisted of the sampling of a total of 31 on- and off-site facility monitoring wells installed during the Remedial Facility Investigation (RFI) and RA. Five of the 31 wells monitored are water wells that are currently being used or can potentially be used for public consumption. These monitoring and water wells were historically sampled on a quarterly basis.

Based on the findings of the USEPA Office of Inspector General's (OIG) Site Evaluation (2008), additional studies were conducted by the USEPA and the State to address the concerns presented by the OIG in their report. The USEPA and Department studies were conducted to evaluate whether the groundwater plume present in the first WBZ could potentially be impacting Selzer's Creek as the plume migrates through and around the ends of the PRB. The studies consisted of the installation of additional groundwater monitoring wells, which were installed by the USEPA and United States Geological Survey (USGS) to further evaluate the groundwater quality of the first WBZ cross-gradient, up-gradient and down-gradient of the PRB as well as within the PRB. The USGS soil/borings/monitoring wells were also installed to define the lateral extent of the first WBZ, which appears to be a sand channel cut that is isolated to the northern end of the site. Additionally, a study was conducted by the USEPA Environmental Response Team (ERT) to evaluate the groundwater to surface water interaction between the first WBZ and Selzer's Creek and to evaluate ecological impacts to the creek. The USEPA's Optimization Group also evaluated the historical groundwater data to determine if the monitoring program was meeting the needs of the Record of Decision (ROD) and whether it could be optimized to improve the existing O&M program.

Based on the findings of these additional studies, the EPA and the State concluded that the previous O&M Program should be revised to reflect the conclusions and recommendations provided in the new studies. These recommendations were implemented in the modified O&M Program. The modified O&M Program consists of the following:

- The existing 22 RFI and RA monitoring wells screened in the first WBZ and second WBZ will be sampled on a semi-annual basis.
- The four RFI and RA monitoring wells located in the third WBZ will be sampled on an annual basis.

- The five residential water wells (WW-04, WW-09, North Well, South Well and Reagan Well) will be sampled on a quarterly basis.
- Six permanent USEPA ADA monitoring wells and one temporary well were added to the program and these wells will be sampled on a semi-annual basis. The monitoring wells selected for sampling include the following: NWGS-01, NWGS-02, NWGS-03, NWGS-04, NWGS-05, NWGS-06 and TEPA-P7D (refer to Exhibit A).
- The USGS installed six permanent monitoring wells as part of the modified O&M Program and these monitoring wells will be sampled on a semi-annual basis. The monitoring wells selected for sampling include the following: GSGP-03, GSGP-06, GSGP-15, GSGP-18, GSGP-19 and GSGP-22. (refer to Exhibit A)
- The collection of surface water samples were added to the modified O&M Program and these samples will be collected on a semi-annual basis. The samples will collected from the following EPA ERT established sampling locations: two surface water samples from the north tributary (CL-05 and CL-19), two samples from Selzer's Creek at the confluence of the northern and southern tributaries (CA-51 and CA-41), which is directly downgradient from the Delatte Metals property and one sample will be collected near the bridge at Esterbrook Road to serve as the up-gradient sample location (refer to Exhibit A). The surface water samples will be analyzed for the same constituents of concern (COCs) as the monitoring wells. The metals will be analyzed on a total and dissolved basis. The surface water samples CA-51 and CA-41 collected from Selzer's Creek shall be collected approximately five feet from the bank that is directly adjacent to the Delatte Metals property. The surface water sample collected near Esterbrook Road shall also be collected five feet from bank of Selzer's Creek; however, either bank can be used for sampling. All surface water samples from Selzer's Creek should be collected at approximately half the distance from the bottom of the creek bed. The surface water samples collected from the northern tributary shall be collected from the middle of the tributary.
- The COCs list for the site will consist of the following metals: arsenic, cadmium, lead, manganese, nickel, and zinc. These metals will be analyzed on a total and dissolved basis. Additionally, the RFI/RA monitoring wells and USEPA TEPA series wells located in the first WBZ and down-gradient of the PRB will also be sampled for sulfides and sulfates and include the following wells: MW-01, MW-02, DW-03, DW-04, BA-09, GSGP-22 and all the TEPA Series wells.
- Quarterly reports will be submitted to the USEPA Region 6 and the Department for the five residential water wells. The third WBZ annual groundwater data shall be included within the semi-annual monitoring report that coincides with the third WBZ sampling event. Therefore, a total of six reports will be prepared and submitted to the USEPA Region 6, the Department and the Tangipahoa Parish Library in Ponchatoula, Louisiana. The Contractor shall submit a hard copy of the report by mail to the Ponchatoula Library located at 380 North Fifth Street, Ponchatoula, Louisiana 70454.

1.3 Site Files

The Delatte Metals Superfund Site (AI # 2328) Administrative Record is available for review at the Department (see below) or at the Ponchatoula Public Library.

The Louisiana Department of Environmental Quality (the Department) provides access to public records regarding any regulated facility through the Electronic Document Management System (EDMS). The EDMS is available at http://www.deq.louisiana.gov/portal/ONLINESERVICES/ElectronicDocumentManagementSystem.aspx. Should assistance be required, a Public Records Technician is available during business hours to assist members of the public with the use of the EDMS. The Department also provides access to EDMS in the Public Records Center located in Baton Rouge in Room 127, Galvez Building, Department Headquarters, 602 North Fifth Street, Baton Rouge, LA 70802 (ph. (866) 896-LDEQ). The Public Records Center is open every business day from 8:00 am until 4:30 pm. Public Records Centers are also available at each of the Department Regional Offices.

Visitors to the Public Records Center are charged $0.25 per printed page. Some visitors qualify for the reduced rate of $0.05 per page or free copies. Charges are payable by check or money order. Charges of $5.00 or less may be paid with cash in exact change when visiting the Baton Rouge Public Records Center.

2.0 RESOURCES

Resource information for this project is provided below.

2.1 Operation and Maintenance Manual

The document listed below can be found at
http://www.deq.louisiana.gov/portal/Portals/0/remediation/DELATTE_METALS_OM.pdf

(1) Site Operation and Maintenance Manual (O&M Manual) which includes:
- (a) Standard Operating Procedures (SOP)
- (b) Tables
- (c) Figures
- (d) Trend Analysis Information
- (e) Landowner Information

2.2 Guidance for Preparation of the Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) shall be developed in accordance with *EPA Requirements for QAPPs* (QA/R-5). For additional guidance, the contractor shall use *EPA Guidance for QAPPs* (QA/G-5). Both of these documents can be found at:

https://www.epa.gov/quality/epa-qar-5-epa-requirements-quality-assurance-project-plans and https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5-december-2002

3.0 PROJECT-SPECIFIC LAWS AND REGULATIONS

The Contractor shall, on his own time and at his own expense, secure all permits, licenses, and certificates that may be required of him by law for the performance of the requirements of the contract. The Contractor and its employees, subcontractors, and agents shall comply with all federal, state and local laws, ordinances, rules, and regulations relating to the performance of this work.

The Contractor shall maintain LA State Contractors License as outlined in the bid Special Terms & Conditions.

In accordance with LAC 33:I.4501, any commercial laboratory (as defined in LAC 33:I.4503) shall be accredited by the Louisiana Environmental Laboratory Accreditation Program (LELAP) prior to commencing analytical work. Each such laboratory must be certified for the method/matrix/analytes necessary to perform the analytical work required. The Department shall not accept analytical data generated by any commercial laboratory that is not accredited by LELAP in accordance with LAC 33:I.4501 through 5915. All analytical data must be submitted in a format approved by the Department Project Manager and shall meet the requirements of LAC 33:I.5313 and the 2003 National Environmental Laboratory Accreditation Conference (NELAC) Standards.

4.0 PROJECT MANAGEMENT

The Contractor shall provide the methods and resources (personnel, supervision, materials, supplies, and equipment) necessary to perform the tasks described in these Specifications. All equipment must be in good working order and available to the Contractor when needed, whether Contractor-owned or leased. The contractor shall provide all support equipment and accessories necessary to operate and maintain the equipment. All lifting equipment must comply with OSHA requirements. All instrumentation must be in sound working condition and calibrated prior to use.

The Contractor shall plan and supervise all tasks efficiently and with his best skill and attention. He shall be solely responsible for the methods, techniques, procedures, and sequencing of work.

4.1 Personnel/Company Qualifications and Experience

The Contractor shall provide, at all times, experienced and competent personnel for the execution of the work described in this Contract. Due to health and safety requirements, no fewer than two personnel shall be allowed to perform on-site work.

The minimum qualifications for Contractor personnel assigned to the operation and maintenance of the site shall include qualifications as specified in Attachment A - Terms & Conditions of this ITB document. The Department reserves the right to require the replacement of any person assigned to work on this project who is determined to be unresponsive to the needs of the Department as defined by the contract.

4.2 General Site Management

This section is included as a general description of the site. It is intended to provide the Contractor with a general understanding of the groundwater monitoring system. A more thorough description of the system can be found in the Delatte Metals Remedial Investigation Report, January 2000 by Tetra Tech and Delatte Metals Final Design Report, January 2001, by Tetra Tech, available via Department Public Records (EDMS) and Ponchatoula Library.

The site currently has no available utilities, and such utilities will not be provided by the Department. The Contractor is responsible for providing any necessary utilities.

The Contractor shall be responsible for the protection and safety of all work, materials, equipment, and other property on the site against vandals and other unauthorized persons during mobilization, on-site work, and demobilization. No claims shall be made against the Department by reason of any act of an employee or trespasser. All damage, injury or loss to any property caused directly or indirectly, in whole or in part, by the Contractor shall be remedied by the Contractor at his expense.

The Contractor shall perform routine, preventative, and corrective maintenance of all onsite equipment. The Contractor shall maintain the appearance of the overall site in a clean and orderly manner acceptable to the Department. Bidders are reminded that **no** equipment will transfer with the contract.

General site maintenance shall include clearing and maintaining a path to all the wells, maintaining the integrity of the wells, as well as repairing damaged wells and well pads, if needed. Additionally, quarterly inspection of the permeable reactive barrier wall (PRB) and surrounding land in the immediate vicinity of the PRB shall be performed to assess if any subsidence is present at and or near the PRB. **Based on the current conditions of the site and PRB, the Department is requiring that 200 cubic yards of clean fill material be used to fill low lying areas near the PRB and areas within the PRB that are exhibiting subsidence**. **This task will need to be performed upon initiation of the project once it is awarded.** Fill placed in the PRB shall be compacted using the weight of the heavy equipment used to grade the fill in place. No compaction testing shall be required for placing of the fill material. The cost for clean fill material, labor, equipment and transportation should be included in the bid. Additionally, a per cubic yard cost should be included in the bid in the event additional fill material is needed in the future due to unforeseen circumstances impacting the PRB. This additional task shall be performed only with prior verbal approval by the Department Project Manager.

Additionally, the contractor will have to maintain and repair the limestone rock access road that leads from the former location of the lead smelter building to the section of the site that contains the PRB. The former lead smelter building location is currently concreted. This task will consist of the filling in of the current areas of the road with an appropriate type of fill material, if required, and then returned to grade. Upon completion of grading, the contractor will obtain limestone rocks to line the

areas of the access road that currently require repair. The limestone base should consist of a 3 inch thick layer of limestone rock which will not exceed ten feet in width. **Based on the current conditions of the access road, the Department has calculated that 15 cubic yards of limestone rock is needed to address the areas of the access road that require repair**. **Grey 57 is the preferred limestone rock to use for road preparation; however, Grey 610 is acceptable. This task will need to be performed upon initiation of the project once it is awarded.** Limestone used to repair the access shall be compacted using the weight of the heavy equipment used to grade the material in place. No compaction testing shall be required and the cost for material, labor, equipment and transportation should be included in the bid.

In the event additional repair is needed in the future due to unforeseen circumstances impacting the access road, the Department will handle this on a case-by-case basis. This additional task shall be performed only with prior verbal approval by the Department Project Manager.

4.3 Schedule

The Contractor shall initiate the project within the time frame set out in schedule below. All activities shall be completed within the stated maximum number of calendar days from the date of the Notice to Proceed issued in writing by the Department. Adherence to the following schedule will be determined by the Department.

Project Initiation Schedule

Time Frame	Activity
Within 10 calendar days of Purchase Order Issuance	Commencement Conference (at Department Headquarters in Baton Rouge or on-site)
November 1, 2016	(Pending Purchase Order Approval Date) Beginning quarter for status as primary contractor (First sampling event for quarter ending Dec. 2016 may occur in November or December 2016 due to Commencement Conference and QAPP preparation/approvals)
Within 20 calendar days of Purchase Order Issuance	Preparation / Submittal of Draft QAPP (note: on-site activities as prime contractor shall not occur until Department approval of the QAPP, unless approved by the Department in special circumstances).
Within 30 calendar days of Purchase Order Issuance	Deadline for Department Review of QAPP
Within 35 days of Purchase Order Issuance	Revisions / Submittal of Final QAPP
30 days following the end of each quarter (beginning quarter ending Dec. 2016)	Submittal of quarterly monitoring reports
30 days following the end of each semi-annual period	Submittal of semi-annual monitoring reports

Within 60 calendar days of Purchase Order Issuance	Preparation / Submittal of Revised O&M Manual
Within 80 calendar days of Purchase Order Issuance	Deadline for Department Review of Revised O&M Manual
Within 100 calendar days of Purchase Order Issuance	Revisions / Submittal of Final O&M Manual

4.4 Submittals and Deliverables

Submittals shall be sent according to the following procedures. Three copies of all reports shall be mailed to:

Gary A. Fulton, Jr., Administrator
Underground Storage Tank and Remediation Division
P.O. Box 4312
Baton Rouge, LA 70821-4312

4.4.1 Quarterly & Semi-Annual Operational Reports

A quarter shall be defined as three months of O&M. Within thirty (30) days after the end of each quarter of O&M, the Contractor shall submit a quarterly groundwater monitoring report to the Department. Within thirty (30) days after the end of each semi-annual period of O&M, the Contractor shall submit a semi-annual groundwater monitoring report to the Department.

The quarterly and semi-annual monitoring reports shall include the Contractor's name and address, the name of the Project Manager, Department's purchase order number and project title, a narrative summary of the quarter's operations, and a data summary table providing quarterly and cumulative quantities for the following items:

(1) A facility map showing all monitoring wells and depict their status, i.e., assessment, recovery, P/A, and surface water sampling locations, etc;
(2) A table showing well number, well depth, screened interval, zone monitored, well diameter, casing material, and type of dedicated equipment, i.e., pump, bailer, etc. for each well;
(3) A table showing the sampling and reporting schedule for each well and surface water sampling location at the facility;
(4) A table showing the tests performed for each well and the specific constituents of concern;
(5) A summary of analytical data for all monitoring wells and surface water samples for the reporting period;
(6) A discussion of any significant changes from the previous reporting period in the analytical data from all monitoring wells for the reporting period;
(7) Contaminant concentration isopleths for each monitored zone for the reporting period;
(8) Water level measurements and potentiometric surface maps for each zone monitored for the reporting period;

(9) Concentration versus time graphs for all monitor wells installed to monitor the effectiveness of the recovery system;
(10) Copies of lab data reports, along with validation reports;
(11) Original field forms / notes; and
(12) Other pertinent information or discussion.

Quarterly and Semi-Annual Reports shall include a comparison of the quarterly and semi-annual sampling results to the statistical analysis. All semi-annual reports shall include a trend analysis (concentrations versus time graphs) for all monitoring wells. Please note that the data obtained from monitoring wells sampled on an annual basis will be included within the semi-annual report that coincides with that semi-annual sampling event.

5.0 SITE HEALTH AND SAFETY REQUIREMENTS

The Contractor shall be responsible for the health and safety of his employees during the performance of all activities required by this contract. The Contractor shall maintain and comply with a Health and Safety Plan (H&SP) consistent with Section 104(f) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended, EPA Order 1440.3, all Occupational Health and Safety Administration requirements, Hazardous Waste Operations and Emergency Response (HAZWOPER) training in accordance with 29 CFR 1910.120, and all applicable federal, state and local laws, regulations, ordinances, and codes used in planning and implementing site health and safety. In the event of conflict between any of these requirements, the more stringent requirement shall be followed.

For safety considerations, no fewer than two (2) O&M Contractor personnel shall be within sight or earshot of each other during hazardous operations (working at heights, handling heavy equipment, etc.). A First Aid Kit shall be maintained on-site at all times along with emergency telephone numbers.

The Contractor shall be responsible and take all necessary precautions for the protection and safety of personnel involved in site activities and affected personnel in the surrounding community. The Contractor shall provide protective clothing and respiratory protective equipment as appropriate for all personnel employed or retained for services.

Personnel Protective Equipment (PPE) shall be stored onsite until disposal. PPE shall be disposed offsite, at the contractor's expense, as necessary.

5.1 Safety Training of Personnel

Because this project requires work with potentially hazardous materials/ substances/ situations, all contract personnel who will work at the site must have completed a 40-Hour Hazardous Waste Operations and Emergency Response (Hazwoper) as prescribed in 29 CFR 1910.120 and maintained an 8-hour refresher course within a 12-14 month period from the date of the initial 40-Hour course. The Contractor shall include copies of each site worker’s 40-Hour and 8-hour refresher of Hazwoper

as applicable in the Health and Safety Plan. Hazwoper certification shall be maintained by all site workers for the duration of the project. Proof of re-certification acquired during the project shall be added to the Health and Safety Plan upon course completion.

Auxiliary services personnel such as equipment maintenance workers or common trash pick-up, etc, who will be working outside the hazardous areas and who will be on-site for a temporary basis only, will not be required to have 40-Hour Hazwoper. All auxiliary services personnel shall be escorted by the site manager or his designee at all times.

5.2 Medical Monitoring of Personnel

The Contractor shall ensure that his employee's physical condition will allow them to successfully perform their duties without physical harm or adverse health effects, especially when wearing protective clothing and equipment.

5.3 Exposure Monitoring

The Contractor shall perform occupational exposure monitoring, as applicable. Worker personnel protection equipment requirements shall be determined by the Contractor based upon monitoring results.

5.4 Decontamination

The Contractor shall install and ensure the proper use of personnel and equipment decontamination enclosures or stations as appropriate to contain hazardous materials or contaminated water when performing hazardous materials remediation activities.

5.5 Emergencies

In emergencies affecting the safety of persons, property, or the work, or adjacent entities thereto, the Contractor, without special instruction or authorization from the Department, is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give immediate notice to the Department at the time of the event's occurrence. Furthermore, he shall provide to the Department written documentation of the event referencing all resultant circumstances and any changes/deviations in the work, within three (3) business days.

6.0 DEPARTMENT RESPONSIBILITIES

As part of its responsibilities for this project, the Department will:

(1) provide points of contact for technical and contract activities (Project Manager and Contract Manager);
(2) observe and inspect the Contractor's work at the site;
(3) monitor the Contractor's work at the site; and

(4) review, require revision as necessary, and accept deliverables and submittals.

7.0 PAYMENT

The Contractor shall submit invoices for completed work to DEQ Accounts Payable, P.O. Box 4303, Baton Rouge, Louisiana 70821-4303 or at DEQAccountsPayable@la.gov. Invoices must identify tasks accomplished. Prices for each line item in the bid shall include all direct costs, indirect costs, and profit associated with that line item. Invoices must include the purchase order number and the name and address of the contractor. No items other than those included in the bid shall be billed; and unit price will prevail.

Invoices submitted for disposal shall include disposal facility tickets and/or manifests to verify quantity or units disposed.

DETAILED SPECIFICATIONS BY LINE ITEM

LINE 1 - ATTENDANCE AT COMMENCEMENT CONFERENCE

The Contractor shall attend a commencement conference at Department Headquarters in Baton Rouge or on-site within seven (7) days of award. The Contractor shall come to the conference prepared to request clarification of any issues not clearly understood by him. Line 1 shall be a lump sum. The Department reserves the right to waive the conference.

LINE 2 - PREPARATION AND REVISION OF O&M MANUAL & QAPP

The Contractor shall prepare and submit a revised O&M Manual and Quality Assurance Project Plan (QAPP) to the Department according to the timeframe listed in the schedule above. The Contractor shall abide by the EPA Requirements for O&M Manuals & QAPPs.

The Contractor shall submit three copies of the QAPP to:

Gary A. Fulton, Jr., Administrator
Underground Storage Tank & Remediation Division
P.O. Box 4312
Baton Rouge, LA 70821-4312

The Department will require revisions to the O&M Manual and QAPP as necessary. Line 2 shall be a lump sum and shall include all direct and indirect costs related to QAPP preparation and revision, as applicable. The previous QAPP is located in EDMS for reference, EDMS Document ID No. 9398265. The latest (2004) version of the O&M Manual may be found at http://www.deq.louisiana.gov/portal/Portals/0/remediation/DELATTE_METALS_OM.pdf

LINE 3 - OPERATION AND MAINTENANCE AND RELATED (MONITORING WELL) ACTIVITIES

Line 3 shall be an Operation and Maintenance per well unit rate (due to the possibility in the future to discontinue the monitoring of some wells, which is not anticipated by the Department). The per well unit rate for Line 3 shall include all activities discussed in this Specification document (other than payment items listed separately above and below) as well as all activities described in the O&M Manual (after revision) referenced herein, as well as with the Contractor's QAPP approved by the Department. The O&M rate per well shall include, but not be limited to: project management, general site management, mobilization, health and safety considerations, sampling, sampling equipment, well inspections, preparation of wastes for disposal, transport of wastes, decontamination, demobilization, analysis, and data validation.

Note: Based on previous site work, individual semi-annual sampling events (on-site and off-site work) have lasted approximately one week. Please note this time will change based on the future modifications to the O&M Program, if required.

All on-facility monitoring wells must be sampled using low flow sampling techniques. Please refer to EPA website address list below for guidance on low-flow groundwater sampling procedures:

http://www.epa.gov/superfund/remedytech/tsp/download/gw_sampling_guide.pdf,
http://www.epa.gov/region9/qa/pdfs/finalsopls1217.pdf

Regarding validation, bidders are referred to the O&M Manual. Only 10% of the analytical data shall be validated. Due to validation, a level IV, fully-supported data package shall be required from the lab.

Please refer to the Operation and Maintenance Manual for specifics regarding sampling and analysis. Metals that will be sampled include: arsenic, cadmium, lead, manganese, nickel, and zinc. The samples shall be analyzed for total metals. If water quality parameters have stabilized within the allowable variances, and the turbidity is above 10 nephelometric turbidity units (NTU), the sampling team will collect a total and dissolved metals sample.

Additionally, specific monitoring wells will be sampled for sulfides (EPA Method 9034) and sulfates (EPA Method 9056). Refer to above section “Modifications to the O&M Program” for the specific monitoring wells selected for sulfide and sulfate testing.

Use of a CLP laboratory is not a requirement for this project; however, as listed in the bid document, the laboratory to be used must be accredited by LELAP. The required method is ILM05.2. For consistency, the Department will allow no substitute methods for this project.

Regarding **inspections**, the following process shall be followed:

Delatte Metals O&M Inspection Checklist

1. Visually inspect all monitoring wells.
   a. Are wells clearly labeled?
   b. Is there standing or ponded water?
   c. Is there evidence of collision damage?
   d. Is there evidence of frost heaving?
   e. Is there evidence of casing degredation?
   f. Are all wells locked?
   g. Is there evidence of well subsidence
   h. Were there any photos taken?

2. Visually inspect PRB cap.
   a. Is the soil overlying the PRB cracked, eroded, or show any other pathways that could allow for surface water to enter the subsurface?
   b. If subsidence results in low area developing over the PRB, additional soil may need to be imported the raise the soil higher than the surrounding areas to minimize infiltration.

3. Verify that all IC's remain in place.
   a. Inspect the deed files for the property during the time of sampling to ensure that IC's remain in place.
   b. Document any reuse of the Site to ensure that it is within the allowable parameter, industrial, as set by the IC.
   c. Report any additional information or discussion related to future reuse, either city planning or developer purchasing.

LINE 4 - O&M SURFACE WATER SAMPLE COLLECTION & ANALYSIS

- Line 4 shall be a <u>per sample</u> unit rate The per sample unit rate for Line 4 shall include all activities collection, analysis, equipment, supplies, labor, analysis, reporting, and data analysis. The samples will collected from the following EPA ERT established sampling locations: two surface water samples from the north tributary (CL-05 and CL-19), two samples from Selzer's Creek at the confluence of the northern and southern tributaries (CA-51 and CA-41) and one sample will be collected near the bridge at Esterbrook Road to serve as the upgradient sample location (refer to Exhibit A). The surface water samples will be analyzed for the same COCs as the monitoring wells (metals). Metals will be analyzed on a total and dissolved basis.

LINE 5 - PREPARATION OF QUARTERLY & SEMI-ANNUAL REPORTS INCLUDING HISTORICAL TREND ANALYSIS AND STATISTICAL ANALYSIS

The Contractor shall submit quarterly reports according to the Deliverables section above. The report shall be submitted according to the mailing procedures indicated above. The Department will review

the report and provide comments as applicable. The Contractor shall address all Department comments, and revise the report as applicable. Line 5 shall be on a per report basis, to include initial preparation of the report, and revisions as applicable.

LINE 6 - RETURNING TO GRADE THE PRB AND AREAS NEAR THE PRB EXHIBITING SUBSIDENCE

The Contractor shall provide clean fill material, labor, equipment and transportation to return to grade areas of the PRB exhibiting significant subsidence as well as areas in the immediate vicinity of the PRB to prevent collapse of the wall. This work will be performed as directed by the Department. Line 6 shall be on a per cubic yard basis which shall include labor, material, equipment and transportation to bring clean fill material to the site. Receipts shall be provided to verify quantities; price may be blacked out on provider receipts. **Based on current conditions, 200 cubic yards of fill material will be needed to return the PRB and areas near the PRB to grade; however, it is anticipated that future events will not exceed a volume of 100 cubic yards for completion of this additional task if needed due to unforeseen circumstances and will be handled by the Department on a case-by-case basis in regard to the purchase order units.**

Line No. 7 through No. 13 are contingency, as-needed items with the exception of the initial projects of returning to grade the PRB and areas surrounding the PRB and the repair of the access road.

LINE 7 – RETURNING TO GRADE AND REPAIRING WORNED AREAS OF THE ACCESS ROAD

The Contractor will have to maintain and repair the limestone rock access road that leads from the former location of the lead smelter building to the section of the site that contains the PRB. This task will consist of the filling in of the current areas of the road with an appropriate type of fill material, if required, and then returned to grade. Upon completion of grading, the Contractor will obtain limestone rocks to fill in the areas of the access road that currently require repair. The limestone base should consist of a 3 inch thick layer of limestone rock which will not exceed ten feet in width. Line 7 shall be on a per cubic yard basis which shall include labor, material, equipment and transportation to bring limestone rock to the site. **Based on the current conditions of the access road, the Department has calculated that 15 cubic yards of limestone is needed to address the areas of the access road that require repair**. **Grey 57 is the preferred limestone rock to use for road preparation; however, Grey 610 is acceptable.**

LINE 8 - WELL LABELS

The Contractor shall replace well labels, as directed by the Department. The type of label shall be the same or equivalent as the labels currently on site. Line 8 shall be on a per label basis.

LINE 9 - WELL LOCKS

4.1 The Contractor shall replace well locks, as directed by the Department. The type of lock shall be the same as the locks currently on site (or equivalent). Line 9 shall be on a per lock basis. The Department will obtain a copy of all keys to well locks during the quarter ending

December 2016. The current locks will transfer with the site and will be replaced on an as-needed basis. If locks are damaged, the contractor will be required to replace the locks as directed by the Department.

LINE 10 - CONCRETE PAD

The Contractor shall replace well concrete pads, as directed by the Department. The type of concrete pad shall be the same as the concrete pads currently on site. Line 10 shall be on a per concrete pad basis. Characterization, transport, and/or disposal (as necessary) of the old material shall be considered an indirect cost and shall be built into the unit rate.

LINE 11 - WELL COVER

The Contractor shall replace well covers, as directed by the Department. The type of well cover shall be the same as the well covers currently on site. Line 11 shall be on a per well cover basis. Characterization, transport, and/or disposal (as necessary) of the old material shall be considered an indirect cost and shall be built into the unit rate.

LINE 12 - REPAINTING

The Contractor shall repaint individual wells, as directed by the Department. The repainting shall be in the manner of the wells currently on site. Line 12 shall be on a per well basis.

LINE 13 - POST REPLACEMENT

The Contractor shall replace well posts, as directed by the Department. The type of posts shall be the same as the posts currently on site. Line 13 shall be on a per post basis. Characterization, transport, and/or disposal (as necessary) of the old material shall be considered an indirect cost and shall be built into the unit rate.

LINE 14 - CLEARING ACCESS TO WELLS

The Contractor shall clear access to the wells to allow for on-site activities, only as directed by the Department. The contractor will only have to clear access to the wells to be sampled. It is not a requirement for the contractor to dispose of all cuttings upon completion of activities. The area cleared for the sampling events may be mulched in place. Line 14 shall be on a per clearing event basis.

LINE 15 - CHARACTERIZATION / PROFILING RELATED TO DISPOSAL, AS APPLICABLE

All characterization and profiling of waste material related to disposal shall be the responsibility of the Contractor. The bid for line 15 shall be a unit rate each characterization/profiling event, estimated 4, and shall include all direct and indirect costs related to waste characterization and profiling for disposal purposes. According to State regulations, hazardous waste may be stored on site for up to 90 days without a permit and must be disposed within the 90 day time frame, if applicable. Non-hazardous waste shall be disposed when the collected purge water is at 80% of the total volume of the drum.

Bidders are reminded that all records for this site can be found in Public Records per the Bid Special Terms and Conditions. The bid document allows bids for both hazardous and non-hazardous disposal costs, and reimbursement shall occur based upon characterization results. The Department cannot guarantee that materials will be categorized as non-hazardous.

LINE 16 - DISPOSAL OF DECON WATER AND PURGE WATER – HAZARDOUS
The Contractor shall dispose of all decon water and purge water at an appropriate permitted disposal facility according to applicable laws and regulations. Line 16 shall include all costs for disposing of decon water and purge water as hazardous and shall be on a per gallon basis.

LINE 17 - DISPOSAL OF DECON WATER AND PURGE WATER - NON-HAZARDOUS
The Contractor shall dispose of all decon water and purge water at an appropriate permitted disposal facility according to applicable laws and regulations. Line 17 shall include all costs for disposing of decon water and purge water as non-hazardous and shall be on a per gallon basis.

LINE 18 - DISPOSAL OF PPE, DISPOSABLE SAMPLING EQUIPMENT, ETC. - HAZARDOUS
The Contractor shall dispose of all PPE, disposable sampling equipment, and all other items that come into contact with purge water or decon water at an appropriate permitted disposal facility according to applicable laws and regulations. Such items shall be containerized into appropriate drums by the Contractor. Line 18 shall include all costs for disposing of PPE, disposable sampling equipment, etc. as hazardous and shall be on a per drum basis.

LINE 19 - DISPOSAL OF PPE, DISPOSABLE SAMPLING EQUIPMENT, ETC. - NON-HAZARDOUS
The Contractor shall dispose of all PPE, disposable sampling equipment, and all other items that come into contact with purge water or decon water at an appropriate permitted disposal facility according to applicable laws and regulations. Such items shall be containerized into appropriate drums by the Contractor. Line 19 shall include all costs for disposing of PPE, disposable sampling equipment, etc. as non-hazardous and shall be on a per drum basis.